Amendments to the Claims:

This listing of Claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)

2. (Previously Presented) The method of claim 31, wherein the cellular mobile packet data network is a GPRS network.

3. (Previously Presented) The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to a Gb trace.

4. (Original) The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to an encrypted Gb and Gr trace.

5. (Original) The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to an encrypted Gb and a Gn trace.

6. (Previously Presented) The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to a Gb, a Gi and a Remote Authentication Dial-in User Service (RADIUS) trace.

7. (Previously Presented) The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to an encrypted Gb, Gi, RADIUS trace and a list of Mobile Station ISDN (MSISDN) and International Mobile Subscriber Identity (IMSI) numbers.

8.   (Original)   The method of claim 2, wherein the step of capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network relates to an encrypted Gb, Gi, RADIUS trace and a fractional Gn trace.

9.   (Canceled)

10.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring MMS large message download/send rate in a specified cell.

11.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring WAP object download delay in a specified cell.

12.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring Web small object download time in a specified cell, where the size of a small object is 9-11 kbyte.

13.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring Web large object download rate in a specified cell, where the size of a large object is larger than 50 kbyte.

14.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring FTP download rate in a specified cell, where the size of the downloaded file is larger than 50 kbyte.

15.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator

measuring POP3, mail download time in a specified cell, where the size of the downloaded file is 9-II kbyte.

16.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring POP3, mail download rate in a specified cell, where the size of a downloaded file is larger than 50 kbyte.

17.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring end-to-end achievable throughput in a specified cell.

18.   (Previously Presented)   The method of claim 17, wherein the calculation of key performance indicator measuring end-to-end achievable throughput in a specified cell comprises the steps of:

calculating total inbound traffic of the user, including other transactions, between the first data packet of the particular TCP connection and the acknowledgement of the last data packet of the particular TCP connection;

dividing the total inbound traffic (byte count) by the time elapsed between the first and last inbound data packet

19.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring the rate of TCP connections and stalled periods in a specified cell.

20.   (Previously Presented)   The method of claim 31, wherein the step of defining a set of key performance indicators comprises a key performance indicator measuring the user-perceived throughput history in a specified cell.

21.   (Canceled)

22.   (Previously Presented)   The method of claim 31, wherein the step of calculating the set of performance indicators is carried out by calculating the key performance indicator value by summing the given Quality of Service measure of the selected individual transactions.

23.   (Previously Presented)   The method of claim 31, wherein the step of calculating the set of performance indicators is carried out by calculating the key performance indicator value by averaging the given Quality of Service measure of the selected individual transactions.

24.   (Previously Presented)   The method of claim 31, wherein the step of calculating the set of performance indicators contains the steps of
    reading the next transaction record from the traffic and. session database;
    checking whether this transaction is of the type, which the KPI is about;
    checking whether the transaction happened in the cell specified for the KPI;
    calculating the quantity defined by the KPI for the particular transaction;
    adding the value to an aggregation counter, and increasing the counter calculating the number of eligible transactions for the KPI;
    returning to the beginning until all the transactions are processed;
    calculating the KPI value by dividing the value of the aggregation counter with count of the eligible transactions.

25.   (Original)   The method of claim 24, wherein the step of checking whether this transaction is of the type, which the KPI is about is carried out by using the flow type field of the transaction record.

26.   (Original)   The method of claim 24, wherein the step of checking whether the transaction happened in the cell specified for the KPI is carried out by using the Cell Id field of the transaction record.

27. (Original)   The method of claim 24, wherein the step of calculating the quantity defined by the KPI for the particular transaction uses the information elements of duration, timestamp of the first data packet, timestamp of the last data packet, packet count and loss count fields of the transaction record.

28. (Canceled)

29. (Previously Presented)   The system of claim 32, in which the monitor node comprising a traffic and session database which correlates traffic and mobility information extracted from passively captured traces collected from standardized interfaces.

30. (Canceled)

31. (Previously Presented)   A method for performance management in a cellular mobile packet data network having a plurality of mobile stations linked to a plurality of base stations through a plurality of radio channels, the base stations being linked to a radio access network, and the radio access network being linked to a support node in a packet core network comprising the steps of:

capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network;

building a traffic and session database by parsing through the traces in order to extract and correlate information about a plurality of user transactions which happened during a measurement period, wherein each user transaction is associated with a specific subscriber using captured session management signaling, and each user transaction is associated with a cell location using captured mobility management signaling, said building the traffic and session database comprises the steps of:

parsing through the raw traffic traces for internet protocol (IP) packets;

processing the IP packets one by one to group together the IP packets belonging to a same user transaction of a same user;

storing condensed application transactions information associated with the IP packet groups;

associating subscribers with the stored condensed application transactions information by:

parsing through signaling message used to initiate subscriber data sessions where the subscribers identify themselves by using unique identifiers and the cellular mobile data network answers with IP addresses which the mobile stations use for the user transactions;

associating the user transactions with cell level locations by:

monitoring mobility management signaling when the mobile stations change cells to obtain identifiers of the subscribers and the cell level locations;

storing the identifiers of the subscribers together with the cell level locations and timestamps when the subscribers visited the cells;

extending the stored condensed application transactions information to include the cell level locations of the user transactions and indicators of cell changes during a course of the user transactions; and

storing summary data about the users transactions belonging to same user sessions together with a list of cells visited during the user sessions and the timestamps when the subscribers visited the cells;

defining a set of key performance indicators; and

calculating the set of key performance indicators using a subset of the information in the traffic and session database to monitor user perceived end-to-end performance on a cell level.

32. (Previously Presented) A system for performance management in a cellular mobile packet data network having a plurality of mobile stations linked to a plurality of base stations through a plurality of radio channels, the base stations being linked to a radio access network, and the radio access network being linked to a support node in a packet core network, the system including a monitor node residing on a computer coupled to the cellular mobile packet data network comprising:

means for capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network;

means for building a traffic and session database by parsing through the traces in order to extract and correlate information about a plurality of user transactions which happened during a measurement period, wherein each user transaction is associated with a specific subscriber using captured session management signaling, and each user transaction is associated with a cell location using captured mobility management signaling, said means for building the traffic and session database comprises:

means for parsing through the raw traffic traces for internet protocol (IP) packets;

means for processing the IP packets one by one to group together the IP packets belonging to a same user transaction of a same user;

means for storing condensed application transactions information associated with the IP packet groups;

means for associating subscribers with the stored condensed application transactions information, said means for associating subscribers comprises:

means for parsing through signaling message used to initiate subscriber data sessions where the subscribers identify themselves by using unique identifiers and the cellular mobile data network answers with IP addresses which the mobile stations use for the user transactions;

means for associating the user transactions with cell level locations, said means for associating the user transactions comprises:

means for monitoring mobility management signaling when the mobile stations change cells to obtain identifiers of the subscribers and the cell level locations;

means for storing the identifiers of the subscribers together with the cell level locations and timestamps when the subscribers visited the cells;

means for extending the stored condensed application transactions information to include the cell level locations of the user transactions and indicators of cell changes during a course of the user transactions; and

means for storing summary data about the users transactions belonging to same user sessions together with a list of cells visited during the user sessions and the timestamps when the subscribers visited the cells;

means for defining a set of key performance indicators; and

means for calculating the set of key performance indicators using a subset of the information in the traffic and session database to monitor user perceived end-to-end performance on a cell level.

33. (Currently Amended) A computer program product embodied in a non-transitory computer readable storage medium, for performance management in a cellular mobile packet data network including a monitor node, said computer program product comprising:

computer-readable program code for capturing raw traffic traces over standardized interfaces of the operational cellular mobile data network;

computer-readable program code for building a traffic and session database by parsing through the traces in order to extract and correlate information about a plurality of user transactions which happened during a measurement period, wherein each user transaction is associated with a specific subscriber using captured session management signaling, and each user transaction is associated with a cell location using captured mobility management signaling, said computer-readable program code for building the traffic and session database comprises:

computer-readable program code for parsing through the raw traffic traces for internet protocol (IP) packets;

computer-readable program code for processing the IP packets one by one to group together the IP packets belonging to a same user transaction of a same user;

computer-readable program code for storing condensed application transactions information associated with the IP packet groups;

computer-readable program code for associating subscribers with the stored condensed application transactions information, said computer-readable program code for associating subscribers comprises:

computer-readable program code for parsing through signaling message used to initiate subscriber data sessions where the subscribers identify themselves by using unique identifiers and the cellular mobile data network answers with IP addresses which the mobile stations use for the user transactions;

computer-readable program code for associating the user transactions with cell level locations, said computer-readable program code for associating the user transactions comprises:

computer-readable program code for monitoring mobility management signaling when the mobile stations change cells to obtain identifiers of the subscribers and the cell level locations;

computer-readable program code for storing the identifiers of the subscribers together with the cell level locations and timestamps when the subscribers visited the cells;

computer-readable program code for extending the stored condensed application transactions information to include the cell level locations of the user transactions and indicators of cell changes during a course of the user transactions; and

computer-readable program code for storing summary data about the users transactions belonging to same user sessions together with a list of cells visited during the user sessions and the timestamps when the subscribers visited the cells;

computer-readable program code for defining a set of key performance indicators; and

computer-readable program code for calculating the set of key performance indicators using a subset of the information in the traffic and session database to monitor user perceived end-to-end performance on a cell level.